

User's manual

**New Vaccine Surveillance System - VINUVA
Comprehensive Family Immunization Project - FCH/IM**

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Introduction

This is a web-based information system that enables PAHO Member State's the monthly gathering and notification of aggregate data on rotavirus and/or pneumonia, and meningitis. Member States are able to do so through their participation in the regional epidemiology supervision network of sentinel hospitals.

The system collects the corresponding aggregate data of children aged less than 5 years that have attended a sentinel hospital each month. In other words, the quantity of the hospitalized children, suspected and likely cases confirmed, and fatalities due to one of these three diseases is reported. Following PAHO's recommendations of the supervising guides for the diseases caused by meningitis bacteria, pneumonia bacteria or rotavirus

In continuation they show step by step how to enter the system and utilize it adequately.

I Initial screen

In the first screen of the information system you can initiate session as a registered user by entering your user name, password, and a system generated security code that the user should repeat.

Additionally, the system shows the following options in this screen:

- Retrieve password: please enter the user name for which the password is being requested. The system will confirm the user's identity through a secret question that, upon being answered correctly, automatically sends the password to the mail account registered in the user's file.
- Register: new/potential users should submit their basic information by filling out the registration form. Once saved, the system will automatically generate an email to the regional administrator. The administrator then assigns a role to the new user. Once this process has been completed, the new user is notified of his/her active/inactive status in the system.



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II User Roles or Profiles

In order to adequately use the software, it is necessary to know which options are available to each user, depending on the role or profile that they have been assigned.

1. Collector Role/Profile

- ✓ Has access to the Surveillance module, which permits the admission of aggregate cases, and to the Reports module; depending on the level to which the user belongs (local or national).
- ✓ Allows the user to read/insert/update surveillance data (local or national level), of one or more diseases, as long as these records have not been updated by the Verifier.
- ✓ Allows permission to read/insert/update user's own contact data within the system.
- ✓ Can only read reference table data.

2. Verifier Role/Profile

- ✓ Reviews and verifies data entered by the Collector, the verification is carried out upon adding a logical field (true/false) or *check mark* to the data entered by the Collector.
- ✓ Has access to the Surveillance module that permits the addition of aggregate cases and to the Reports module; depending on the level to which the user belongs (local or national).
- ✓ Has permission to read/update data of verified cases that may or may not be aggregate.

- ✓ Can verify aggregate cases of one or more diseases.
- ✓ Has permission to read/insert/update the user's own contact data within the system.
- ✓ Can only read reference table data.

3. Reader Role/Profile

- ✓ Has access to the Surveillance module and is allowed to read data and to the Reports module, depending on the level to which the user belongs (national or regional).

4. Administrator Role/Profile

- ✓ At the National level:
 - Has access to the Surveillance module with permission to read/delete data and to the Reports module.
 - Reads/Adds/Updates user data for users in Collector and Verifier roles.
 - Backs up of surveillance data.
- ✓ At the Regional Level:
 - Has access and total control of all the modules within the system.

III Main Screen

Entering to the system with a registered user, three parts can be differentiated in the screen that is displayed:



1. Header:

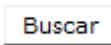
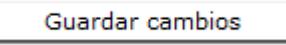
- Home: this option enables the user to return to the main screen from any part of the system.
- My data: shows the user's data, allows the option to modify.

- Exit
- Displays the username as it appears in the system.

2. Menu: this line shows all of the modules available to the user within the system, depending on the user's role.

3. Forms and data: this section displays all of the forms through which data can be added/consulted/edited/modified within the system.

IV General Buttons Used within the System

- ✓  Used to carry out searches for records that fulfill selected filters within the system.
- ✓  Used to save data in the current record.
- ✓   Used to delete records or selections.
- ✓  Used to clean the screen and remain in the same option.
- ✓  Total registros: 6 | Pagina 1 de 1     This line allows the movement within a table, with the option to go to the first record, to the last, to the previous or to the following. It makes it possible for users to determine how many records a table has in total and how many pages they will display.
- ✓  Used to edit information in a record.

V Modules of the system

1. Administration

Module described in the manual on administration.

2. Maintenance

2.1. Import data

This option allows authorized users the mass loading/importation of data for given disease through a file in CSV format. The user should select the disease, the location of the file that contains the information, and the separators used in that file.

2.2. Export data

This option allows authorized users to export records reported for a given disease and generate a file with the same in Excel format.

2.3. Backup

This option allows for a backup/safety of all the data within the system.

2.4. Restore

This option makes it possible to restore or load information from the database previously backed up.

3. Surveillance

This module permits the addition/query/elimination/modification of the records related to cases of bacterial meningitis, bacterial pneumonias, and rotavirus reported to the network.

Management for all three diseases is the same; therefore the illustration/example will be with bacterial meningitis.

3.1. Adding new records

- i. Upon entering any of the three options within the module, the system presents you the user a form to select the country, hospital, month and year to which the data to be entered corresponds and then click in the “New” button.

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Meningitis bacteriana			
Consecutivo pais	<input type="text"/>		
Pais	BOLIVIA	Hospital	Seleccione
Mes	NOVIEMBRE	Año	2010
<input type="button" value="Buscar"/> <input type="button" value="Nuevo"/> <input type="button" value="Limpiar"/>		<input type="button" value="País"/> <input type="button" value="Hospital"/> <input type="button" value="Mes - Año"/> <input type="button" value="Verificado"/>	

- ii. Depending on the role the user has been assigned, they can enter records for a specific hospital, for all hospitals in a country or for all hospitals in the network.
- iii. Once the user has selected the identification data for the record, the system displays the form with the data that should be entered:

Meningitis bacteriana																											
Consecutivo pais	<input type="text"/>																										
Pais	68 - BOLIVIA																										
Hospital	2 - CENTRO PEDI TRICO ALBINA PATIÑO COCHABAMBA																										
Mes	ENERO - 2010																										
<input type="button" value="Atras"/> <input type="button" value="Limpiar"/> <input type="button" value="Grabar"/>																											
1. Num. hospitalizaciones en menores de 5 años <input type="text"/> 2. Num. sospechosos de meningitis <input type="text"/> 3. Num. sospechosos de meningitis con LCR2 y fichas <input type="text"/> 4. Num. de casos probables de meningitis <input type="text"/>																											
<input type="button" value="Menor de 12 meses"/> <input type="button" value="12 - 23 meses"/> <input type="button" value="24 - 59 meses"/> <input type="button" value="Total < 5 años"/>																											
5. Num. de casos confirmados de meningitis <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Menor de 12 meses</td> <td style="width: 25%;">12 - 23 meses</td> <td style="width: 25%;">24 - 59 meses</td> <td style="width: 25%;">Total < 5 años</td> </tr> <tr> <td><input type="text"/> Hib</td> <td><input type="text"/> Hib</td> <td><input type="text"/> Hib</td> <td><input type="text"/> Hib</td> </tr> <tr> <td><input type="text"/> Hi (no b)</td> </tr> <tr> <td><input type="text"/> Nm</td> <td><input type="text"/> Nm</td> <td><input type="text"/> Nm</td> <td><input type="text"/> Nm</td> </tr> <tr> <td><input type="text"/> Spn</td> <td><input type="text"/> Spn</td> <td><input type="text"/> Spn</td> <td><input type="text"/> Spn</td> </tr> <tr> <td><input type="text"/> Otras</td> <td><input type="text"/> Otras</td> <td><input type="text"/> Otras</td> <td><input type="text"/> Otras</td> </tr> </table>				Menor de 12 meses	12 - 23 meses	24 - 59 meses	Total < 5 años	<input type="text"/> Hib	<input type="text"/> Hib	<input type="text"/> Hib	<input type="text"/> Hib	<input type="text"/> Hi (no b)	<input type="text"/> Nm	<input type="text"/> Nm	<input type="text"/> Nm	<input type="text"/> Nm	<input type="text"/> Spn	<input type="text"/> Spn	<input type="text"/> Spn	<input type="text"/> Spn	<input type="text"/> Otras	<input type="text"/> Otras	<input type="text"/> Otras	<input type="text"/> Otras			
Menor de 12 meses	12 - 23 meses	24 - 59 meses	Total < 5 años																								
<input type="text"/> Hib	<input type="text"/> Hib	<input type="text"/> Hib	<input type="text"/> Hib																								
<input type="text"/> Hi (no b)	<input type="text"/> Hi (no b)	<input type="text"/> Hi (no b)	<input type="text"/> Hi (no b)																								
<input type="text"/> Nm	<input type="text"/> Nm	<input type="text"/> Nm	<input type="text"/> Nm																								
<input type="text"/> Spn	<input type="text"/> Spn	<input type="text"/> Spn	<input type="text"/> Spn																								
<input type="text"/> Otras	<input type="text"/> Otras	<input type="text"/> Otras	<input type="text"/> Otras																								

- iv. All the fields refer to number of cases, therefore they are whole numbers.
- v. Depending on how the user has their data, they can enter a total number of those <5 years or discriminate by age range and the system calculates the total. However, if the user enters a single value by in the age range, they cannot write a value in the total (field) because the system calculates it and if they write in the value in total (field), they cannot write values in for ranges of age.
- vi. The field “Observations collector” is optional for the user that wishes to add some relevant data to the record. The link that appears below that: “additional Data”, displays the data of the user that added the record, once it has been saved to the system.
- vii. The fields of verified (Yes/No), date of verification, verifier’s observations, and additional data, are fields that are activated for the users under the verifier role.
- viii. The link for “Changes carried out” allows the user to display a record of all the changes made to a record, from the moment of its creation.
- ix. At the end of the form, you find the buttons to return to the previous screen (Back), clean screen (Clean) and to save the record (Save).
- x. In order to save a record to the system, it has to fulfill the following requirements, otherwise, an error message will display and you will not be able to save the record until it is fixed:
 - a. Bacterial meningitides:
 - ✓ The number of deaths cannot be greater than the number of confirmed meningitis cases.
 - ✓ The number of confirmed meningitis cases cannot be greater than the number of probable meningitis cases.
 - ✓ The number of probable meningitis cases cannot be greater than the number of meningitis cases suspected by CSF and medical records.
 - ✓ The number of suspected meningitis with CSF and medical records cannot be greater than the number of suspected meningitis cases.
 - ✓ The number of suspected meningitis cannot be greater than the number of hospitalizations [for those < 5 years].

b. Bacterial pneumonias:

- ✓ The number of deaths cannot be greater than the number of confirmed pneumonia cases.
- ✓ The number of confirmed pneumonia cases cannot be greater than the sum of the number of probable pneumonia cases determined by pleural fluid plus the number of probable pneumonia cases determined through a blood sample.
- ✓ Neither the number of probable pneumonia cases determined by pleural fluid nor the number of probable pneumonia cases determined by blood sample can be greater than the number of probable pneumonia cases.
- ✓ The number of probable pneumonia cases cannot be greater than the number of suspected pneumonia cases determined by X-rays and medical records.
- ✓ The number suspected pneumonia cases, suspected because of X-rays and medical records, cannot be greater than the number of suspected pneumonia cases.
- ✓ The number of suspected pneumonias cannot be greater than the number of hospitalizations [for those < 5 years].

c. Rotavirus:

- ✓ The number of deaths cannot be greater than the number of positive stool samples for rotavirus with medical records.
- ✓ The number of number of positive stool samples for rotavirus with medical records cannot be greater than the number of children with medical records and number of collected stool samples.
- ✓ The number of children with medical records and collected stools samples cannot be greater than the number of children [aged <5 years] that fulfill the criteria for suspected rotavirus.
- ✓ The number of children [aged <5 years] that fulfill the criteria to be suspected of having rotavirus cannot be greater than the number of hospitalizations by diarrhea in children [aged <5 years].
- ✓ The number of hospitalizations of those [aged <5 years] cannot be greater than the number of hospitalizations by diarrhea in children [aged <5 years].

3.2. In order to consult/delete/modify records

This form, as well as all forms within the system, uses filters for all fields selected. This allows the user to hide specific records s/he does not wish to display, by choosing the desired fields with the word "Select" and the system will display the existing records that the selected criteria.

For example, if a user wishes to see all the records entered for the country Bolivia, for any hospital, and on any date, the filters used, and the result of the query will be the following:

Meningitis bacteriana

Consecutivo	<input type="text"/>	país	<input type="text"/>	Hospital	<input type="text"/>	Seleccione
País	<input type="text" value="BOLIVIA"/>	Hospital	<input type="text"/>	Seleccione	<input type="text"/>	<input type="text"/>
Mes	<input type="text"/>	Año	<input type="text"/>	Seleccione	<input type="text"/>	<input type="text"/>
<input type="button" value="Buscar"/> <input type="button" value="Nuevo"/> <input type="button" value="Limpiar"/>						
<< < Total registros: 143 Página 1 de 15 > >>						
Editar	#	<u>País</u>	<u>Hospital</u>	<u>Mes</u>	<u>Año</u>	<u>Verificado</u>
	4248	BOL	CPAP CHB	12	2009	Si
	4257	BOL	H. MUNICIPAL EL	12	2009	Si
	4244	BOL	HSB	12	2009	Si
	4263	BOL	H. MATERNO INFA	12	2009	Si
	4254	BOL	H. DEL NIÑO MA	12	2009	Si
	4275	BOL	H. DEL NIÑO O	12	2009	Si
	4252	BOL	H. MATERNO INFA	12	2009	Si
	4247	BOL	CPAP CHB	11	2009	Si
	4256	BOL	H. MUNICIPAL EL	11	2009	Si

Within the system, all column names of a query that are underlined provide order, in other words, if the user clicks on a name the system automatically orders the query, in ascending order according to that column.

Depending on the role that has been assigned to the user, s/he can consult/delete/modify records that have been verified or not, for a specific hospital, all of the hospitals in a country, or of all the hospitals in the network.

Once the user has identified the needed record, s/he can:

- i. **Consult** by selecting the button and the system will display the form with the complete record. Within this form, the user has the option to **Modify** the record, taking into account the general rules for adding new records and clicking on the button to **Save**.
- ii. **Delete** selecting the button

4. Reports

The reports, just all other forms within the system, use filters for all the selection fields, allowing for dynamic reports that allow the user to view only the information they require.

For all reports:

- ✓ For the “Country” field, the user can select one, some or all of the countries. When the user is mistaken selecting a country, it can delete the selection of that country, giving click in the “X” that appears beside the name of the country.
- ✓ If the user selects a single country, the system enables them to select one, some or all the hospitals in that country.
- ✓ If the user selects more than one country, the system will, by default, generate all of the hospitals in the selected countries.
- ✓ For all of the fields in selection, if the user does not choose any filters and in the word “Selects” appears in the fields, the system will generate all records without restriction.
- ✓ The system enables the user, once they have selected the filters for a report, to “Generate file” which displays the report on the screen. Once the report is on the screen, the user can click “Generate report” in order to export the file to Excel or to PDF. Some reports can only be exported to Excel depending on the amount of data they contain.

4.1. Control of monthly collection

List that allows the display of all records created, verified and unverified, month to month by disease. For hospitals that have not reported records during a given month, it will show a blank and if they have, a “V” for verified and “Uv” for unverified will appear.

4.2. Detailed data list

This list displays, verified and unverified, records reported in the system, one to one, for every disease by hospital and month. A record is shown for each disease with the numbers of reported cases and the totals by item. This list also includes the observations introduced by the collector at the time of entry.

4.3. Summarized per total country

List that displays the totals, of all the reported records by country, according to each record and which were verified.

4.4. Summarized per country total and percentage

List that displays the totals of all the reported records by country, according to the record and which were verified, including a percentage for analysis.

4.5. Summarized by hospital

List that displays the totals for all reported records by hospital, according to the record for all the diseases and which were verified.

4.6. Summarized per month

List that displays the totals for all the reported records by month, according to the record for every disease and which were verified.